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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 16

Application Number: 09/534,461
Filing Date: March 24, 2000
Appellant(s): ABOLFATHI ET AL.

Robert Kramer
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 16th, 2003.

(1)   *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2)   *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly

affect or be directly affected by or have a bearing on the decision in the pending appeal

is contained in the brief.

(3)   *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4)   *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection

contained in the brief is correct.

(5)   *Summary of Invention*

The summary of invention contained in the brief is correct.

(6)   *Issues*

The appellant's statement of the issues in the brief is correct.

(7)   *Grouping of Claims*

Appellant's brief includes a statement that claims 1-24 do not stand or fall

together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8)   *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9)   *Prior Art of Record*

6283761	Joao	9-2001
5683243	Andreiko et al.	11-1997

(10)   Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-24 are rejected under 35 U.S.C. 103. This rejection is set forth in prior

Office Action, Paper No.11. The rejection is set forth below as it appears in Paper

No.11.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Joao (6,283,761) in view of Andreiko et al (5,683,243).

(A)   As per claim 1, Joao discloses a virtual health-care electronic commerce

community, comprising:

a network to communicate information (Col.18, lines 50-65; Col.20, lines 40-50)

one or more patients coupled to the network (Col.14, lines 13-67 to Col.15, line

17; Col.20, lines 13-67);

a server coupled to the network, the server storing data (Col.14, lines 49-67).

Joao does not explicitly disclose one or more treating professionals coupled to the

network to receive and manipulate the computer model of the patient's teeth;

manipulable three-dimensional (3D) computer models of a patient's teeth relating to the

community; and each patient including 3D computer models of teeth and performing

patient data visualization in response to a user request.

However, these features are known in the art, as evidenced by Andreiko. In particular, Andreiko suggests manipulable three-dimensional (3D) computer models of a patient's teeth relating to the community; and each patient including 3D computer models of teeth and performing patient data visualization in response to a user request (See Andreiko, Figs. 3A, 3B, and 6; Col.39, lines 1-67 to Col.40, line 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the features of Andreiko within the system of Joao with the motivation of providing three dimensional imaging of the teeth and jaw of the patient is carried with laser or other scanner to form full three dimensional images of the teeth and jaw of the patient. The images may be formed from the patient's teeth and jaw or form a model thereof. Additional data is digitized by taking vertical profiles of the patient's teeth, either by tracing with a computer the three dimensional images generated with other scanners (See Andreiko, Col.5, lines 6-18).

(B)   As per claim 2, Joao does not disclose the community wherein the treating professional views one or more of the following patient data visualization over the network: a right buccal view; a left buccal view; a posterior view; an anterior view; a maxillary occlusal view; an overjet view; a left distal molar view; a left distal molar view; a left lingual view; a lingual incisor view; a right lingual view; a right distal molar view; an upper jaw view; and a lower jaw view.

However, this feature is known in the art, as evidenced by Andreiko. In particular, Andreiko teaches a mandibular occlusal view (See Andreiko Col.1, lines 33-65; Col.15, lines 19-55).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the feature of Andreiko within Joao's apparatus and the

method for providing healthcare information with the motivation of a custom orthodontic appliance which fabricated under the control of a computer directly from data from the teeth and/or jaw of a patient or a model thereof. The appliance so formed, when connected to the teeth of the patient to precise calculated finish positions without the need for the orthodontist to bend archwires over the course of the treatment. As a result, the orthodontist's time is conserved, the treatment of the patient is achieved in a shorter amount of time and the finish positions of the teeth are more nearly ideal (See Andreiko Col.6, lines 20-30).

(C)   As per claim 3, Joao discloses the community wherein the treating professionals include dentists or orthodontists (Col.17, lines 25-30).

(D)   As per claim 4, Joao discloses the community further comprising one or more partners coupled to the network, such as insurance companies (Col.17, line 62 to Col.18, line 49).

(E)   As per claim 5, Joao discloses the community wherein the partners include a financing partner such as financial account information (Col.17, line 18; Col.18, line 12).

(F)   As per claim 6, Joao discloses the community wherein the partners include a supplier (Col.19, lines 54-64).

(G)   As per claim 7, Joao discloses the community wherein the partners include a delivery company such as any other third party and/or intermediary who or which acts

on behalf of another and/or assists in to providing of healthcare and/or related services (Col.12, lines 41-43; Col.24, line 55-62).

(H)   As per claim 8, Joao discloses the community wherein the treating professionals perform office management operations using the server (Col.12, lines 18-67 to Col.13, line 37).

(I)   As per claim 9, Joao discloses the community wherein the office management operations include one or more of the following: patient scheduling, patient accounting, and claim processing (Col.24, lines 21-48).

(J)   As per claim 10, Joao discloses the community wherein the patients and the treating professionals access the server using browsers (Col.40, lines 13-67 to Col.41, line 32).

(K)   As per claim 11, Joao discloses a computer-implemented method for performing dental-related electronic commerce (Col.17, lines 25-67), comprising:

transmitting teeth data associated a patient from a dental server to a treating professional computer over the Internet upon an authorized request (Col.17, lines 25-67);

transmitting the computer model from the treating professional computer server (Col.14, lines 49-67; Col.15, line 67; Col.20, lines 40-67); and

generating an appliance to treat the patient based on the computer model of the teeth (Col.17, lines 25-61).

Joao does not explicitly disclose displaying a three-dimensional computer model of the teeth at the treating professional computer using a browser; allowing a treating professional to manipulate the three-dimensional computer model of the teeth using the browser. However, this feature is known in the art, as evidenced by Andreiko. In particular, Andreiko teaches displaying a three-dimensional computer model of the teeth at the treating professional computer using a browser; allowing a treating professional to manipulate the three-dimensional computer model of the teeth using the browser (Col.15, lines 22-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the feature of Andreiko within the Joao's apparatus and method for providing healthcare information with the motivation of a custom orthodontic appliance which fabricated under the control of a computer directly from data from the teeth and/or jaw of a patient or a model thereof. The appliance so formed, when connected to the teeth of the patient to precise calculated finish positions without the need for the orthodontist to bend archwires over the course of the treatment. As a result, the orthodontist's time is conserved, the treatment of the patient is achieved in a shorter amount of time and the finish positions of the teeth are more nearly ideal (Col.6, lines 20-30).

(L)   As per claim 12, Joao discloses the method further comprising providing financing options for the patient using one or more financing partners (Col.16, lines 33-67; Col.17, lines 62-67 to Col.18, line 49).

(M)   As per claim 13, Joao discloses the method further comprising offering an on-line shop geared to the patient's dental requirements (Col.5, lines 2-6).

(N)   As per claim 14, Joao discloses the method further comprising providing office management utilities for the treating professional (Col.12, lines 18-67 to Col.13, line 37).

(O)   As per claim 15, Joao discloses the method wherein the office management utilities include one or more of the following: patient scheduling, patient accounting, and claim processing (Col.12, lines 18-67 to Col.13, line 37).

(P)   As per claim 16, Andreiko discloses the method wherein allowing a treating professional to manipulate the three-dimensional computer model of the teeth using the browser further comprises displaying a plurality of dental views (Col.39, lines 1-67 to Col.40, line 55).

(Q)   As per claim 17, Joao fails to disclose the method wherein the dental views include one or more of the following: a right buccal view; a left buccal view; a posterior view; an anterior view; a mandibular occlusal view; a maxillary occlusal view; an overjet view; a left distal molar view; a left distal molar view; a left lingual view; a lingual incisor view; a right lingual view; a right distal molar view; an upper jaw view; and a lower jaw view.

However, this feature is known in the art, as evidenced by Andreiko. In particular, Andreiko teaches a mandibular occlusal view (See Andreiko Col.1, lines 33-65; Col.15, lines 19-55).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the feature of Andreiko within Joao's apparatus and the method for providing healthcare information with the motivation of a custom orthodontic

appliance which fabricated under the control of a computer directly from data from the teeth and/or jaw of a patient or a model thereof. The appliance so formed, when connected to the teeth of the patient to precise calculated finish positions without the need for the orthodontist to bend archwires over the course of the treatment. As a result, the orthodontist's time is conserved, the treatment of the patient is achieved in a shorter amount of time and the finish positions of the teeth are more nearly ideal (See Andreiko Col.6, lines 20-30).

(R)   As per claim 18, Andreiko discloses the method wherein allowing a treating professional to manipulate the three-dimensional computer model of the teeth using the browser further comprises clicking on a tooth to adjust its position (Col.15, lines 22-67).

The motivation for combining the respective teachings of Joao and Andreiko are as discussed above in the rejection of claim 11, and incorporated herein.

(S)   As per claim 19, Andreiko discloses the method further comprising displaying x, y and z axis to allow the treating professional to adjust the position of the tooth (Col.49, lines 1-38).

The motivation for combining the respective teachings of Joao and Andreiko are as discussed above in the rejection of claim 11, and incorporated herein.

(T)   As per claim 20, Andreiko discloses the method further comprising providing supplemental services to the patient, including teeth whitening services (Col.39, lines 35-47).

The motivation for combining the respective teachings of Joao and Andreiko are as discussed above in the rejection of claim 11, and incorporated herein.

(U)   As per claim 21, Joao discloses a server to support a health-care electronic commerce community with one or more patients and one or more service providers (Col.13, lines 29-67 to Col.14, line 67 to Col.15, lines 1-67), comprising:

a processor adapted to communicate with a network (Col.15, lines 6-67 to Col.16, lines 1-18);

a data storage device coupled to the processor and adapted to store data (Col.19, lines 65-67 to Col.20, line 8) Joao does not explicitly disclose including manipulable 3D dental model for each patient and a software to communicate 3 D patient data in response to a client request. However, this feature is known in the art, as evidenced by Andreiko. In particular, Andreiko suggests including manipulable 3D dental model for each patient and a software to communicate 3D patient data in response to a client request (Col.39, lines 1-67 to Col.40, line 55).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the feature of Andreiko within the system of Joao with the motivation of a custom orthodontic appliance which fabricated under the control of a computer directly from data from the teeth and/or jaw of a patient or a model thereof. The appliance so formed, when connected to the teeth of the patient to precise calculated finish positions without the need for the orthodontist to bend archwires over the course of the treatment. As a result, the orthodontist's time is conserved, the treatment of the patient is achieved in a shorter amount of time and the finish positions of the teeth are more nearly ideal (See Andreiko Col.6, lines 20-30).

(V)   As per claim 22, Joao and Andreiko do not disclose the server further comprising a browser adapted to receive the client request and transmitting the request to the server.

However, Joao clearly teaches utilizing the Internet and /or the World Wide Web to embody his system (See Joao, Col.3, line 53 to Col.4, line 5).

It is well known in the art that browsers are required to receive and transmit data over the Internet and/or the World Wide Web, (Col.3, line 53 to Col.4, line 5) and the Examiner takes Official Notice of browsers for such purposes.

One having ordinary skill in the art at the time of the invention would have found it obvious to incorporate a browser with the system taught collectively by Joao and Andreiko with the motivation of providing easy-to-use and readily available access to the Internet and the World Wide Web, as suggested by Joao (Col.3, line 53 to Col.4, line 5 of Joao).

(W)   As per claim 23, Andreiko discloses the server wherein the browser further comprises plug-in to visualize patient data in 3 D (Col.39, lines 1-67).

The motivation for combining the respective teachings of Joao and Andreiko are as discussed above in the rejection of claim 21, and incorporated herein.

(X)   As per claim 24, Andreiko discloses the server wherein the providers service one or more of the following health-care applications: dentistry applications, cosmetic augmentation, hair-care enhancements, liposuction, plastic or reconstructive surgery (Col.40, lines 11-55).

The motivation for combining the respective teachings of Joao and Andreiko are as discussed above in the rejection of claim 21, and incorporated herein.

(11)   Response to Argument

In the Appeal Brief filed 10/01/03, Appellant makes the following argument:

Claims 1-24 are patentable over Joao in view of Andreiko, et al. In making this

argument, Appellant makes the following points:

(i)   The present rejection does not establish a prima facie case of obviousness under

35 U.S.C. 103 and M.P.E.P. Sections 2142-2143.

(ii)   Neither Joao nor Andreiko references, alone or in combination, teaches or

suggests all the claim limitations of independent claim 1 namely, 3-D computer models

of teeth manipulable by a treating professional, and a server performing patient data

visualization in response to a user request.

(iii)   Neither Joao nor Andreiko references teach 3-D computer models of teeth that

are manipulable by a treatment professional, particularly the manipulation of the 3-D

model by use of a browser.

(iv)   Neither Joao nor Andreiko shows a data storage device coupled to the processor

and adapted to store data including manipulable 3D dental model for each patient nor

software to communicate 3D patient data in response to a client request over the

network.

(v)   Appellant notes that no motivation or suggestion, either in the cited art references or in knowledge generally available to one of ordinary skill in the art, has been cited by the Examiner to modify the Joao and Andreiko et al. references so as to produce the claimed invention.

Examiner will address Appellant's argument and related points in sequence as they appear in the Brief.

(i)   With respect to Appellant first point of argument, the Examiner respectfully submits that obviousness is determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Hedges*, 783 F.2d 1038, 1039, 228 USPQ 685,686 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785,788 (Fed. Cir. 1984); and *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143,147 (CCPA 1976). Using this standard, the Examiner respectfully submits that he has at least satisfied the burden of presenting a *prima facie* case of obviousness, since he has presented evidence of corresponding claim elements in the prior art and has expressly articulated the combinations and the motivations for combinations that fairly suggest Appellant's claimed invention. Note, for example, in rejection of claim 1, Examiner had stated the following:

As per claim 1, Joao discloses a virtual health-care electronic commerce community, comprising:

a network to communicate information (Col.18, lines 50-65; Col.20, lines 40-50);

one or more patients coupled to the network (Col.14, lines 13-67 to Col.15, line

17; Col.20, lines 13-67);

a server coupled to the network, the server storing data (Col.14, lines 49-67).

Joao does not explicitly disclose one or more treating professionals coupled to the

network to receive and manipulate the computer model of the patient's teeth;

manipulable three-dimensional (3D) computer models of a patient's teeth relating to the

community; and each patient including 3D computer models of teeth and performing

patient data visualization in response to a user request.

However, these features are known in the art, as evidenced by Andreiko. In

particular, Andreiko suggests manipulable three-dimensional (3D) computer models of a

patient's teeth relating to the community; and each patient including 3D computer

models of teeth and performing patient data visualization in response to a user request

(See Andreiko, Figs. 3A, 3B, and 6; Col.39, lines 1-67 to Col.40, line 5).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to have included the features of Andreiko within the system of Joao with the

motivation of providing three dimensional imaging of the teeth and jaw of the patient is

carried with laser or other scanner to form full three dimensional images of the teeth and

jaw of the patient. The images may be formed from the patient's teeth and jaw or form a

model thereof. Additional data is digitized by taking vertical profiles of the patient's

teeth, either by tracing with a computer the three dimensional images generated with

other scanners (See Andreiko, Col.5, lines 6-18).

As such, it is respectfully submitted that an explanation based on logic and sound

scientific reasoning of one ordinarily skilled in the art at the time of the invention that

support a holding of obviousness has been adequately provided by the motivations and

reasons indicated by the Examiner in the previous Office Actions, incorporated herein,

Ex parte Levengood, 28 USPQ2d 1300 (Bd. Pat. App. & Inter., 4/22/93).

(ii)   In response to Appellant's second point of argument, it is respectfully submitted

that Appellant further fails to properly consider the clear and unmistakable teachings of

the applied references, and further fails to properly consider the breadth of the claim

limitations presently argued. In particular, the third element in claim 1 is "one or more

treating professionals coupled to the network to receive and manipulate the computer

model of the patient's teeth". This limitation, in and of itself, does not absolutely require

any manipulation of a computer model of a patient teeth, but rather at least one "treating

professional" coupled to the network with the intent or purpose of receiving and

manipulating a computer model. With this in mind, it is the clear and unmistakable

teachings of the secondary reference, Andreiko, that: (i) an orthodontist or assisting

person (reads on "treating professional") performs portions of an data input procedure

(94) on a computer to be transmitted or received via a network to/from a remote

appliance design facility (Andreiko; col. 21, lines 1-15), and (ii) wherein the

aforementioned data input procedure includes: defining tooth and jaw positions and

profiles in terms of orthodontic parameters and landmarks (Andreiko; col. 21, line 66 to

col. 22, line 5); making changes in the mandibular bone and skeletal changes in the

maxilla (Andreiko; col. 22, lines 37-43); making modifications or surface displacements

on some teeth to pick up the highest cusp or marginal ridge (Andreiko; col. 23, line 25 to

col. 24, line 3). It is respectfully submitted that Appellant provides no logical or scientific

reasoning as to why the defining of tooth and jaw positions, the making of changes in

the mandibular bone and skeletal changes, or the making of modifications and surface

displacements on some teeth, would not be activities relevant to the purpose/intent of

receiving and manipulating 3-D computer model of a patient's teeth. Furthermore, col.

21, line 46 to col. 24, line 20 of Andreiko describe ALL of the data input procedure (94)

which may be performed by an orthodontist (14) or assisting personnel at his/her own

office computer <u>prior</u> to transmittal to the remotely located appliance design facility (see

especially col. 21, lines 11-15 & 40-46 of Andreiko).

In addition, contrary to Appellant's allegations, the communication between an

orthodontist facility and the remote appliance design facility is certainly NOT one-way

from the doctor to the design facility (note especially col. 21, lines 40-46 of Andreiko

which clearly discloses the communication of machine-readable code <u>from</u> the design

facility <u>to</u> the orthodontist).

Further, Appellant seems to concede at page 5, lines 21-23 of the Appeal Brief

filed 01 October 2003 that Andreiko's col. 21, lines 9-15 gives a doctor the ability to

convert information to computer readable form prior to transmitting such information to

an appliance design facility. The Examiner respectfully submits that the mere

conversion of data to computer readable form is in and of itself a manipulation of a 3D

profile (see col. 39, lines 1-15). It appears that Appellants seeks to assign a specific

meaning to the term "manipulate" or "manipulable" which is not explicitly defined via a

positive and concrete definition within the present specification, nor further refined in the

bodies of the pending claims. As such, Appellant's argument that there is no suggestion

or teaching of manipulating the 3-D computer model of the patient's teeth, particularly by

a treating professional in Andreiko is non-persuasive since claim 1 does not recite any means or device for manipulating the 3-D computer model of the patient's teeth. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As such, the Examiner respectfully submits that such terms were given their broadest reasonable interpretations during examination, and since the applied reference clearly discloses the claimed limitations, when given their broadest reasonable interpretations, it is respectfully submitted that the Examiner's reliance on Andreiko is indeed proper.

With respect to Appellant's contention that Andreiko fails to disclose a server, per se, it is respectfully submitted that it was the Joao reference (Joao; col. 14, lines 49-67) that was relied upon for this feature, and not the Andreiko reference. As such the Examiner respectfully submits one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In addition, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Therefore, Joao and Andreiko disclose all the recited limitations.

As such, it is respectfully submitted that Appellant appears to consider the teachings of the applied references separately in a vacuum without considering the teachings of Joao and Andreiko collectively as a whole.

(iii)   With respect to Appellant's third point of argument, Examiner relied on the teaching of Andreiko for the teachings of displaying a three-dimensional computer model of the teeth at the treating professional computer using a browser; allowing a treating professional to manipulate the three-dimensional computer model of the teeth using the browser (See Col.15, lines 22-67 of Andreiko).

In particular, Andreiko discloses the use of an input computer (30) and a mouse (47 a) and/or digitizer board (47) to manipulate the three-dimensional computer model (Andreiko; Col.15, lines 56-67).

It is respectfully submitted that the above teaching of Andreiko, when considered collectively with that of Joao's transmission of data over the Internet via an Internet server (note col. 15, lines 18-47 and col.15, line 59 to col.16, line 18 of Joao) provided to one of ordinary skill in the art at the time of the invention, the knowledge of manipulating a 3-D model by the use of a browser, especially since Joao notes that his invention is particularly suited for dentistry and the surgical and dental fields (col. 17, lines 25-31 and col.18, lines 50-65 of Joao).

As such, Appellant's remarks with regard to the lack of term "server" within the four corners of the Andreiko reference is immaterial to the issues at hand, since Appellant views each reference individually and separately, and not in the manner in

which the Examiner's rejections are based, namely, Joao and Andreiko considered

collectively as a whole.

Furthermore, it is respectfully submitted that perhaps Appellant attributes

features or advantages to his purpoted invention that neither recited or clearly set forth

in the claims as presently recited. In particular, Andreiko suggests that "the transmitted

information 16 is preferably transmitted from the orthodontist's office 11 to the appliance

facility 13 by modem, but may be transmitted in any other manner" which correspond to

Appellant's claimed feature (See Andreiko, Col.13, lines 44-53). The Examiner

respectfully submits that the mere presence of two separate computers that

communicate with each other broadly reads on a "network". Further, since Appellant

fails to point to any specific definition of "server" within the originally filed specification, it

is respectfully submitted that at least one of the computers within the Andreiko system

functions as a server in that it handles the administrative control of all or part of the

interconnected computers (e.g., "network") of the Andreiko system. Therefore, it is

respectfully submitted that Appellant fails to appreciate the vast breadth of the claims,

as presently recited.

Thus, in light of the reasons and responses given above, it is respectfully

submitted that a prima facie case of obviousness has been clearly established by the

Examiner. Rather, it is respectfully submitted that Appellant appears to view the applied

references in a vacuum without considering their teachings collectively and in view of

the knowledge of average skill in the art. Therefore, Joao and Andreiko disclose all the

recited limitations.

(iv)   With respect to Appellant's fourth point of argument, Examiner respectfully

submits that Joao clearly discloses a processor adapted to communicate with a network

(Col.15, lines 6-67 to Col.16, lines 1-18 of Joao); and a data storage device coupled to

the processor and adapted to store data (Col.19, lines 65-67 to Col.20, line 8 of Joao).

However, it was the features of Andreiko, and not Joao, per se, that Examiner

relied upon for disclosing a manipulable 3D dental model and software to communicate

the 3-D model. Andreiko suggests including manipulable 3D dental model for each

patient and software to communicate 3D patient data in response to a client request

(Col.39, lines 1-67 to Col.40, line 55).

In addition, it is respectfully submitted that Appellant fails to consider the breadth

of the claim limitations presently argued. The last two claimed limitations of claim 21 are

"a data storage device coupled to the processor and adapted to store data including

manipulable 3D dental model for each patient; and software to communicate 3D patient

data in response to a client request".

The above limitations, in and of themselves, do not absolutely require any

manipulating of a 3D dental model, but rather a device for storing such data and

communicating it. With this in mind, it is the clear and unmistakable teaching of the

secondary reference, Andreiko, that: (i) an orthodontist or assisting person (reads on

"treating professional") performs portions of an data input procedure (94) on a computer

to be transmitted or received via a network to/from a remote appliance design facility

(Andreiko; col. 21, lines 1-15), and (ii) wherein the aforementioned data input

procedure includes: defining tooth and jaw positions and profiles in terms of orthodontic

parameters and landmarks (Andreiko; col. 21, line 66 to col. 22, line 5); making changes

in the mandibular bone and skeletal changes in the maxilla (Andreiko; col. 22, lines 37-

43); making modifications or surface displacements on some teeth to pick up the

highest cusp or marginal ridge (Andreiko; col. 23, line 25 to col. 24, line 3). It is

respectfully submitted that Appellant provides no logical or scientific reasoning as to

why the defining of tooth and jaw positions, the making of changes in the mandibular

bone and skeletal changes, or the making of modifications and surface displacements

on some teeth, would not be activities relevant to the purpose/intent of receiving and

manipulating 3-D computer model of a patient's teeth. Furthermore, col. 21, line 46 to

col. 24, line 20 of Andreiko describe ALL of the data input procedure (94) which may be

performed by an orthodontist (14) or assisting personnel at his/her own office computer

prior to transmittal to the remotely located appliance design facility (see especially col.

21, lines 11-15 & 40-46 of Andreiko).

In addition, contrary to Appellant's allegations, the communication between an

orthodontist facility and the remote appliance design facility is certainly NOT one-way

from the doctor to the design facility (note especially col. 21, lines 40-46 of Andreiko

which clearly discloses the communication of machine-readable code from the design

facility to the orthodontist).

As such, it is respectfully submitted that Appellant appears to consider the

teachings of the applied references separately in a vacuum without considering the

teachings of Joao and Andreiko collectively as a whole.

(v)   With respect to the Appellant's fifth point of argument, the Examiner respectfully

submits that obviousness is determined on the basis of the evidence as a whole and the

relative persuasiveness of the arguments. See *In re Oetiker*, 977F.2d 1443, 1445, 24

USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Hedges*, 783F.2d 1038, 1039, 228 USPQ

685, 686 (Fed. Cir. 1992); *In re Piasecki* , 745 F.2d 1468, 1472, 223 USPQ 785, 788

(Fed. Cir.1984); and *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA

1976). Using this standard, the Examiner respectfully submits that he has at least

satisfied the burden of presenting a prima facie case of obviuosness, since he has

presented evidence of corresponding claim elements in the prior art by expressly

pointing to specific portions of each applied reference and has expressly articualted the

combinations and the motivations for combinations as well as the scientific and logical

reasoning of one skilled in the art at the time of the invention that fairly suggest

Applicant's claimed invention.

Each applied reference does not expressly suggest combination with the other

respective references; however, the Examiner has shown that motivation for combining

the references existed in the prior art. Within the present combinations, all of the

modifications proposed by the Examiner are taught by the references and that

knowledge generally available to one of ordinary skill in the art. Therefore, the

combination of references is proper and the rejection maintained.

In addition, the Examiner recognizes that references cannot be arbitrarily altered

or modified and that there must be some reason why one skilled in the art would be

motivated to make the proposed modifications. However, although the Examiner

agrees that the motivation or suggestion to make modifications must be articulated, it is

respectfully contended that there is no requirement that the motivation to make

modifications must be expressly articulated <u>within the references themselves</u>.

References are evaluated by what they suggest to one versed in the art, rather than by

their specific disclosures, *In re Bozek*, 163 USPQ 545 (CCPA 1969).

The Examiner is concerned that Appellant apparently ignores the mandate of the

numerous court decisions supporting the position given above. The issue of

obviousness is not determined by what the references expressly state but by what they

would reasonably suggest to one of ordinary skill in the art, as supported by decisions in

In re DeLisle 406 Fed 1326, 160 USPQ 806; *In re Kell, Terry and Davies* 208 USPQ

871; and *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988)

(citing *In re Lalu*, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1988)). Further, it

was determined in *In re Lamberti et al*, 192 USPQ 278 (CCPA) that:

(i)   obviousness does not require absolute predictability;

(ii)   non-preferred embodiments of prior art must also be considered; and

(iii)   the question is not <u>express</u> teaching of references, but what they would

suggest.

According to *In re Jacoby*, 135 USPQ 317 (CCPA 1962), the skilled artisan is

presumed to know something more about the art than only what is disclosed in the

applied references. In *In re Bode*, 193 USPQ 12 (CCPA 1977), every reference relies

to some extent on knowledge of persons skilled in the art to complement that which is

disclosed therein.

According to *Ex parte Berins*, 168 USPQ 374 (Bd. Appeals), there is no statutory

limitation as to the number of references that may be used to demonstrate obviousness

not what references expressly state but what they would reasonably suggest to one of

ordinary skill in the art. In *In re Conrad*, 169 USPQ 170 (CCPA), obviousness is not

based on <u>express</u> suggestion, but what references taken collectively would suggest.

Nonetheless, it is respectfully submitted that an explanation based on logic and

sound scientific reasoning of one ordinarily skilled in the art at the time of the invention

that support a holding of obviousness has been adequately provided by the motivations

and reasons indicated by the Examiner in the previous Office Action, *Ex parte*

Levengood, 28 USPQ2d 1300 (Bd. Pat. App. & Inter., 4/22/93).

In response to Appellant's piecemeal analysis of the references, it is respectfully

submitted that one cannot show nonobviousness by attacking references individually

where the rejections are based on combinations of references. See *In re Keller*, 642

F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ

375 (Fed. Cir. 1986). In addition, the test for obviousness is not whether the features of

a secondary reference may be bodily incorporated into the structure of the primary

reference; nor is it that the claimed invention must be expressly suggested in any one or

all of the references. Rather, the test is what the combined teachings of the references

would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d

413, 208 USPQ 871 (CCPA 1981). The skilled artisan would not consider the prior art

embodiments in a vacuum, but would have had the motivation to combine the

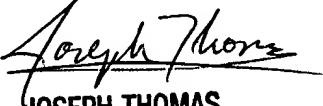advantageous features of the prior art in the manner purported by the Examiner for the

reasons and motivations given in the prior Office Action. Thus, the teachings of Joao

and Andreiko when considered with the knowledge that is generally available to one of

ordinary skill in the art make obvious the limitations that Appellant disputes.

For the above reasons, it is believed that the rejection should be sustained.

Respectfully submitted,
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